

Matus et al.

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REMARKS

Claims 1-20 are pending in the present application. In the Office Action mailed September 21, 2004, the Examiner rejected claims 1-3, 5, 7-18, and 20 under 35 U.S.C. §102(b) as being anticipated by Wilkins (USP 4,225,769). The Examiner next rejected claims 4, 6, and 19 under 35 U.S.C. §103(a) as being unpatentable over Wilkins in view of Ogden, Sr. et al. (USP 3,662,147) or Jones et al. (USP 6,700,091).

Regarding claim 1, the Examiner stated that Wilkins teaches that the starting circuit 50 may be disposed "at the torch assembly end of cable 16, as claimed." While Applicant agrees that Wilkins teaches that the starting circuit 50 may be "at the torch assembly end of cable 16," claim 1 is not directed to such an assembly. Wilkins teaches that a starting circuit may be disposed at the torch assembly end of a power/gas delivery cable but does not teach that the starting circuit be disposed within the torch assembly. Specially, Wilkins states, "The features of FIG. 2 which differ from the prior art FIG. 1 are basically the circuit arrangement 50 at the torch assembly end of cable 16 and a few changes in the power supply unit 14." Col. 4, lns. 38-42 (emphasis added).

In contrast, claim 1 calls for "[a] plasma cutting torch" having "a torch body." Claim 1 then calls for "a plasma cutter starting circuit disposed in the torch body." (Emphasis added). Therefore, claim 1 is clear that the "plasma cutter starting circuit" is not "at the torch end of the cable assembly" but, instead, is "disposed within the torch body." Nowhere does Wilkins teach or suggest that the circuit arrangement 50 is disposed within the torch 10. In fact, as clearly illustrated in Figs. 2 and 3, Wilkins teaches that circuit arrangement 50 is separate from torch 10.

Therefore, claim 1 is believed to be patentably distinguishable from Wilkins because Wilkins does not teach or suggest that the starting circuit may be disposed in the torch body or any way in which the starting circuit could be configured to be disposed in the torch body. Rather, Wilkins explicitly teaches a starting circuit disposed "at the torch assembly end of cable 16." Further, claims 2-11 are believed to be in condition for allowance as being dependent upon an otherwise allowable claim. Moreover, claims 2-11 call for subject matter that is additionally distinguishable from the art of record. As such, Applicant would like to take the opportunity to highlight a few of these distinctions.

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Regarding claims 4 and 6, the Examiner stated that Wilkins fails to teach or suggest that "the torch include a handle and that the starting circuit is located in such handle." Accordingly, the Examiner cited Jones et al. and Ogden, Sr. et al. as teaching "location of torch starting circuits in the torch handle." However, neither Jones et al. or Ogden, Sr. et al. are supportive of this position.

Jones et al. teaches a plasma arc torch trigger system. As shown in Figs. 1, 2, 4, and 10, the torch of Jones et al. includes a handle 24. However, contrary to the position of the Examiner, Jones et al. does not teach or suggest that any starting circuit may be included within the handle. Rather, Jones et al. is only concerned with the incorporation of a switch or "selector" 26 within the torch handle. The selector operates as a switch that allows an operator to select between three operable positions. When the selector is in a first position, the system operates to deliver gas to the torch. Col. 4, Ins. 51-65. When the selector is in a second position, the system operates to deliver gas and electric power to the torch. Col. 4, In. 66 to col. 5, In. 16. When the selector is in a third, neutral, position, the system operates inhibit delivery of gas and electric power to the torch. Col. 5, Ins. 35-50.

Jones et al. does not teach or suggest that any starting circuit be included in the torch 12 or handle 26. Rather, the selector 26 functions only as a switching device to communicate an operator selection from the torch 12 to the power supply 14. That is, Jones et al. clearly states that "the selector 26 activates a power switch 36 disposed within the torch handle 24, which activates the supply of electrical power from the power supply 14 to the plasma arc torch 12." Nowhere does Jones et al. teach or suggest that the torch or torch handle includes a starting circuit.

Similarly, Ogden, Sr. et al. does not teach or suggest that the torch or torch handle includes a starting circuit. Rather, Ogden, Sr. et al. only discloses that a "trigger switch 16" may be incorporated into a "welding gun 14." Col. 3, Ins. 22-53. Ogden, Sr. et al. explicitly states, "Reference numeral 10 of FIG. 1 generally indicates one embodiment of the invention comprising a trigger circuit 12 operably associated with welding gun 14 that is equipped with the diagrammatically illustrated trigger switch 16 by which the trigger circuit 12 is operated to control the supply of shielding gas, welding current, and welding wire to the gun 14." Col. 3, Ins. 31-40. Ogden, Sr. et al. further describes the configuration of these components by stating that the trigger 16 communicates with a trigger circuit 12 that responds to commands from the trigger 16 to start or stop the welding process. *See* col. 3, Ins. 31-40. Figures 1 and

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3 of Ogden, Sr. et al. are clear that the trigger switch 16 is incorporated into the welding gun 14, however, both figures are also clear that the trigger circuit 12 is located externally from the welding torch 14.

Furthermore, it should be noted that Ogden, Sr. et al. is directed to a welding gun trigger control. Ogden, Sr. et al. does not teach or suggest any cutting-type process. Therefore, Ogden, Sr. et al. is directed to a very different system, i.e. MIG welding, from the claimed plasma cutting system. As such, beyond the fact that Ogden, Sr. et al. does not teach or suggest a starting circuit disposed within a welding torch, Ogden Sr., et al. is directed to welding and not cutting or plasma cutting, as claimed. Therefore, Ogden Sr., et al. cannot be properly combined with references such as Wilkins or Jones et al. because they are directed to different applications, functions, and systems, i.e. welding as opposed to cutting. *See* MPEP §2145 (stating that non-analogous art cannot be combine to provide a basis for obviousness).

Furthermore, Jones et al. cannot be combined with Wilkins for the purpose expressed by the Examiner because Wilkins teaches away from combining the separate starting circuit and torch. *See* MPEP §2145 (stating that a reference that teaches away from the proposed combination cannot be properly combine). That is, it appears that the Examiner is using impermissible hindsight to infer that because Wilkins teaches that the starting circuit may be disposed within the plasma torch, any controls disposed within the torch, such as the switches of Jones et al. and Ogden, Sr. et al., provide a basis for obviousness. However, as shown, there is no teaching or suggestion in the art of record to dispose a starting circuit within a plasma cutting torch. Rather, Wilkins teaches that the starting circuit 50 is located externally from the plasma torch 10. *See* Figs. 2 and 3. Therefore, it appears that the Examiner is using Applicant's own disclosure as a basis to leap from a starting circuit disposed at the torch end of a gas/electrical supply cable to disposing the starting circuit within the plasma cutting torch. However, such an interpretation is impermissible under MPEP §2145. For at least these reasons, claims 4 and 6 are patentably distinct from the art of record.

While the Examiner addressed claims 4 and 6 together, with respect to claim 6, the Examiner also stated that "Jones et al. teach a handle portion 24 which basically fits within the palm of the hand controlling it[,] the output electrode starts at the edge of such control, [and the] 12 inches claimed for such distance [is] obviously being depicted." However, claim 6 calls for "a distance between the output electrode and the plasma cutter starter circuit [to

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be] less than 12 inches. Beyond the fact that Jones et al. does not teach any starting circuit configured with in the torch, Applicant does not believe a distance of 12 inches between a starter circuit and an electrode is illustrated or rendered obvious.

Furthermore, when addressing claim 6, the Examiner noted in the Office Action that "the output electrode MIG in Ogden. Sr. et al. and Hackl, travels thru the handle and MIG indicates the plasma presence, and thus 12 inches as claimed is taught." It appears that the Examiner concluded that because MIG welding systems typically include a gas, that gas is converted into a plasma, as in a plasma cutter. However, this is not the case. The gas utilized in MIG welding processes is used as a shielding gas. The gas is not superheated to convert it into a plasma, as in a plasma cutting system. In fact, if the shielding gas did reach a plasma state, such would inhibit or at least interfere with the desired MIG welding process. That is, the plasma would interfere with the welding process by trying to cut through the workpiece, as in a plasma cutting process, rather than shielding the weld, as in a MIG welding process. Additionally, there is no support within the art for the Examiner to conclude, "thus 12 inches as claimed is taught." For at least these reasons, claim 6 is patentably distinct from the art of record.

Regarding claim 12, the Examiner rejected the claim as unpatentable over Wilkins and addressed the claim substantively in conjunction with claim 1. However, claim 12, in part, calls for "a pilot arc starting circuit positioned in the plasma cutting torch." As previously stated, Wilkins does not teach or suggest that a starting circuit be disposed in a torch body. Similarly, Wilkins does not teach or suggest that a pilot arc starting circuit be positioned within a plasma cutting torch. Rather, Wilkins only teaches a starting circuit may be disposed at the torch assembly end of a power/gas delivery cable but does not teach that the starting circuit be disposed within the torch assembly. See col. 4, lns. 38-42. Furthermore, Figs. 2 and 3 are clear that the starting circuit 50 and torch 10 are both at the torch end of the cable 16 but are separate. Therefore, claim 12 is patentably distinct from the art of record. Furthermore, claims 13-15 are in condition for allowance at least pursuant to the chain of dependency.

Regarding claim 16, the Examiner rejected the claim as unpatentable over Wilkins and addressed the claim substantively in conjunction with claims 1 and 12. However, claim 16 calls for "a starter circuit disposed within the plasma cutting torch." Again, Wilkins only teaches a starting circuit may be disposed at the torch assembly end of a power/gas delivery

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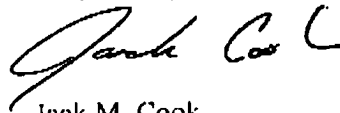
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cable. Wilkins does not teach or suggest that the starting circuit may be disposed within the torch and, in fact, shows that the circuit arrangement 50 is separate from the torch 10 in both Figs. 2 and 3. Therefore, claim 16 is patentably distinct from the art of record. Furthermore, claims 17-20 are in condition for allowance at least pursuant to the chain of dependency.

Therefore, in light of at least the foregoing, Applicant respectfully believes that the present application is in condition for allowance. As a result, Applicant respectfully requests timely issuance of a Notice of Allowance for claims 1-20.

Applicant appreciates the Examiner's consideration of these Remarks and cordially invites the Examiner to call the undersigned, should the Examiner consider any matters unresolved.

Respectfully submitted,



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